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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/737,297 | 12/16/2003 | Ronald N. Yeaple | 0090079 | 7678 |

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JACQUELINE E. HARTT, PH.D
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, P.A.
P.O. BOX 3791
ORLANDO, FL 32802-3791

| EXAMINER | |
|---|---|
| GATES, ERIC ANDREW | |
| **ART UNIT** | **PAPER NUMBER** |
| 3722 | |

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/737,297 | YEAPLE, RONALD N. | |
| | Examiner | Art Unit | |
| | Eric A. Gates | 3722 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17-27* is/are allowed.

6)☒ Claim(s) *1-10, 14-16, 28-36, and 40* is/are rejected.

7)☒ Claim(s) *11-13 and 37-39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/27/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6-7 and 32-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 6 recites a further limitation to the substrate of claim 5. However, the substrate of claim 5 is not a required limitation, thereby making it indefinite whether the limitation of claim 6 is actually required.

b. Claim 7 recites a further limitation to the conductive material of claim 5. However, the conductive material of claim 5 is not a required limitation, thereby making it indefinite whether the limitation of claim 7 is actually required.

c. Claim 32 recites a further limitation to the substrate of claim 31. However, the substrate of claim 31 is not a required limitation, thereby making it indefinite whether the limitation of claim 32 is actually required.

d. Claim 33 recites a further limitation to the conductive material of claim 31. However, the conductive material of claim 31 is not a required limitation, thereby making it indefinite whether the limitation of claim 33 is actually required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-10 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (U.S. Patent 2,579,488) in view of Adee (U.S. Patent 4,743740).

5. Regarding claim 1, Freeman discloses a system for binding a stack of pages 10 along an edge thereof to form a book, the system comprising: an elongated strip 31 having opposed ends, opposed side edges extending between the ends, and an electrical resistivity between the ends, the strip further having an adhesive 15 with a predetermined melting temperature (see column 3, lines 55-61) in contact with at least a portion of a first side (visible side of adhesive 15 in figure 6) thereof, the strip first side positionable in contact with a binding edge 11 of a stack of pages to be bound; and means 51 for introducing an electrical current along the strip between the ends, the current sufficient to heat the strip to a temperature at least as great as the melting temperature in order to melt the adhesive (see column 3, lines 55-61) and thereby bind the stack of pages together along the binding edge.

Freeman does not disclose the strip having a plurality of spaced-apart cuts extending therethrough inwardly from and perpendicular to the side edges in alternating fashion, so as to form a substantially serpentine electrically conductive path between

the ends. Adee teaches the use of a strip 20 made from a thin electrical resistive metal foil, such as stainless steel or copper foil, having a plurality of spaced apart cuts (not labeled, see figure 3) extending therethrough inwardly from and perpendicular to the side edges in alternating fashion, so as to form a substantially serpentine electrically conductive path between the ends, such shape being defined as a typical grid pattern for heating elements (see column 3, lines 17-18), for the purpose of providing more even heating across the surface area to be heated, as it is well known in the art that the current density profile of a substrate is more uniform as the cross-sectional area decreases. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the elongated strip of Freeman with the serpentine shape of Adee in order to have a binding system that provides more even heating to the adhesive.

6. Regarding claim 2, the modified invention of Freeman discloses wherein the adhesive-contacted portion comprises a central portion in spaced relation from the ends, and the strip further has opposed end portions on either side of the central portion, the end portions substantially uncoated with adhesive (see figure 2).

7. Regarding claim 3, the modified invention of Freeman discloses wherein the end portions comprise the electrical current introducing means 51 (see figure 2).

8. Regarding claim 4, the modified invention of Freeman discloses wherein the electrical current introducing means 51 comprise a pair of conductive metal contacts affixable to the strip end portions (see figure 2).

9. Regarding claim 5, the modified invention of Freeman discloses wherein the strip comprises a flexible material consisting of metal foil (see Adee column 3, lines 18-22).

10. Regarding claims 6, the modified invention of Freeman discloses the wherein the substrate 15 is plastic (see column 2, lines 7-29 and column 4, lines 11-15).

11. Regarding claim 7, the modified invention of Freeman discloses the wherein the conductive material 31 is foil (see Adee, column 3, lines 18-22).

12. Regarding claim 8, the modified invention of Freeman discloses wherein the strip comprises a conductive metal foil.

13. Regarding claim 9, the modified invention of Freeman discloses the invention substantially as claimed, except Freeman does not disclose wherein the metal foil comprises one of brass foil and aluminum foil. However, the Examiner takes official notice that the tin or copper foil of Adee are well known equivalents for brass and aluminum foil in the art, and would be acceptable replacements for the purpose of design and/or manufacturing convenience.

14. Regarding claim 10, the modified invention of Freeman discloses wherein a portion of the strip adjacent each of the side edges is uncoated with adhesive (see figure 2), and the side edge portions are capable of being folded upward to surround the adhesive.

15. Regarding claim 14, the modified invention of Freeman discloses wherein the adhesive 15 comprises a hot-melt adhesive applicable to the strip in solid form (see column 4, lines 11-15).

16. Regarding claim 15, the modified invention of Freeman discloses a generally squared "U"-shaped holder 37/38/41 having a gap between two arms 37/38 thereof, the gap having a width sufficient to admit the page stack and cover (the gap may be adjusted to contain the cover as well as the page stack, instead of just the page stack as shown in figures 3-5).

17. Regarding claim 16, the modified invention of Freeman discloses wherein the electrical current introducing means 51 comprises a power supply 50. While Freeman does not distinctly disclose a switch in electrical connection between the power supply and the strip ends, the switch having an "on" position for activating the power supply and an "off" position for deactivating the power supply, all of these features are inherent and/or well known in the art for the purpose of operating the electrical circuit.

18. Claims 28-36 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (U.S. Patent 2,579,488) in view of Adee (U.S. Patent 4,743740).

19. Regarding claim 28, Freeman discloses a book-binding element comprising: an electrically resistive strip 31; an adhesive 15 with a predetermined melting temperature in contact with at least a portion of a first side (side of strip visible in figure 2) of the strip, the strip first side positionable in contact (in contact through adhesive 15) with a binding edge 11 of a stack of pages 10 to be bound, and means 51 for introducing an electrical current along the strip between opposed ends thereof, the current sufficient to heat the strip to a temperature at least as great as the melting temperature (see column 3, lines

55-61) in order to melt the adhesive and thereby bind the stack of pages together along the binding edge.

Freeman does not disclose the electrically resistive strip having a plurality of spaced-apart cuts extending therethrough inwardly from and perpendicular to opposed side edges thereof in alternating fashion, so as to form a substantially serpentine electrically conductive path between opposed ends thereof. Adee teaches the use of a strip 20 made from a thin electrical resistive metal foil, such as stainless steel or copper foil, having a plurality of spaced apart cuts (not labeled, see figure 3) extending therethrough inwardly from and perpendicular to the side edges in alternating fashion, so as to form a substantially serpentine electrically conductive path between the ends, such shape being defined as a typical grid pattern for heating elements (see column 3, lines 17-18), for the purpose of providing more even heating across the surface area to be heated, as it is well known in the art that the current density profile of a substrate is more uniform as the cross-sectional area decreases. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the elongated strip of Freeman with the serpentine shape of Adee in order to have a binding system that provides more even heating to the adhesive.

20. Regarding claim 29, the modified invention of Freeman discloses wherein the adhesive-contacted portion comprises a central portion in spaced relation from the ends, and the strip further has opposed end portions on either side of the central portion, the end portions substantially uncoated with adhesive (see figure 2).

21. Regarding claim 30, the modified invention of Freeman discloses wherein the end portions comprise the electrical current introducing means 51 (see figure 2).

22. Regarding claim 31, the modified invention of Freeman discloses wherein the strip comprises a flexible material consisting of metal foil (see Adee column 3, lines 18-22).

23. Regarding claims 32, the modified invention of Freeman discloses the wherein the substrate 15 is plastic (see column 2, lines 7-29 and column 4, lines 11-15).

24. Regarding claim 33, the modified invention of Freeman discloses the wherein the conductive material 31 is foil (see Adee, column 3, lines 18-22).

25. Regarding claim 34, the modified invention of Freeman discloses wherein the strip comprises a conductive metal foil.

26. Regarding claim 35, the modified invention of Freeman discloses the invention substantially as claimed, except Freeman does not disclose wherein the metal foil comprises one of brass foil and aluminum foil. However, the Examiner takes official notice that the tin or copper foil of Adee are well known equivalents for brass and aluminum foil in the art, and would be acceptable replacements for the purpose of design and/or manufacturing convenience.

27. Regarding claim 36, the modified invention of Freeman discloses wherein a portion of the strip adjacent each of the side edges is uncoated with adhesive (see figure 2), and the side edge portions are capable of being folded upward to surround the adhesive.

28. Regarding claim 40, the modified invention of Freeman discloses wherein the adhesive 15 comprises a hot-melt adhesive applicable to the strip in solid form (see column 4, lines 11-15).

### *Allowable Subject Matter*

29. Claims 17-27 are allowed.

30. Claims 11-13 and 37-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Conclusion*

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric A. Gates whose telephone number is 571-272-5498. The examiner can normally be reached on Monday-Thursday 7:45-6:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EAG
14 June 2006

MONICA CARTER
SUPERVISORY PATENT EXAMINER